



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4156 BYPASS RATIO: 4.7
 UNIQUE ID NUMBER: 1PW046 PRESSURE RATIO (π_{co}): 29.3
 COMBUSTOR:
 ENGINE TYPE: TF RATED THRUST (F_{oo}) (kN): 252.4

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F _{oo} (g/kN) or SN	1.8	17.4	59.9	18.4
AS % OF ORIGINAL LIMIT	9.4	14.8	60.8	100.2
AS % OF CAEP/2 LIMIT (NO _x)			76.0	
AS % OF CAEP/4 LIMIT (NO _x)			91.0	
AS % OF CAEP/6 LIMIT (NO _x)			103.4	
AS % OF CAEP/8 LIMIT (NO _x)			121.9	

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES
 - DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F _{oo})	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	2.449	0.11	0.08	32.50	14.3
CLIMB OUT	85	2.2	1.981	0.17	0.14	24.60	
APPROACH	30	4.0	0.647	0.25	0.90	11.60	
IDLE	7	26.0	0.188	0.66	11.60	5.00	
LTO TOTAL FUEL (kg) or EMISSIONS (g)			813	288	3587	13043	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F _{oo} (g/kN) or AVERAGE SN (MAX)				1.2	14.2	51.7	14.3
SIGMA (D _p /F _{oo} in g/kN, or SN)							
RANGE (D _p /F _{oo} in g/kN, or SN)							

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	101.6
TEMPERATURE (K)	290
ABS HUMIDITY (kg/kg)	0.00053

FUEL

SPEC	Jet A
H/C	1.87
AROM (%)	19.7

MANUFACTURER: Pratt & Whitney
 TEST ORGANIZATION: Pratt & Whitney
 TEST LOCATION: P7 Stand, P&W, Middletown, CT
 TEST DATES: 14/05/1986-14/05/1986

REMARKS

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)